

DEVICE BASED ON COATED NANOPOROUS STRUCTURE

ABSTRACT OF THE DISCLOSURE

A nanostructured apparatus may include a mesoporous template having an array of regularly-spaced pores. One or more layers of material may conformally coat the walls to a substantially uniform thickness. Such an apparatus can be used in a variety of devices including optoelectronic devices, e.g., light emitting devices (such as LEDs, and lasers) and photovoltaic devices (such as solar cells) optical devices (luminescent, electro-optic, and magneto-optic waveguides, optical filters, optical switches, amplifiers, laser diodes, multiplexers, optical couplers, and the like), sensors, chemical devices (such as catalysts) and mechanical devices (such as filters for filtering gases or liquids)